PROCALCITONIN AS A MARKER OF SEPSIS IN HOSPITALISED ELDERLY

ABSTRACT

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AIMS & OBJECTIVES :

To estimate the significance of procalcitonin as a biomarker in the diagnosis of sepsis in elderly patients and its role in the prognosis of elderly patients with sepsis and to compare it with conventional markers of sepsis.

METHODOLOGY :

Study Centre : Geriatric Medicine OPD,

Rajiv Gandhi Government General Hospital, Chennai.

Study Duration : 6 months

Study Design : Cross sectional and observational study

Sample size : 75 patients

Inclusion criteria : Sepsis patients above 60 years of age, willing for study

Exclusion criteria :

- Patients above 60 yrs of age not willing to consent for the study
- Patients who underwent surgery or trauma during the previous 72 hours
- Patients with burns and acute pancreatitis

Procedure:

Patients admitted in Geriatric Wards and G.I.C.U, fulfilling the inclusion criteria are enrolled. History including demographic charecteristics(age and sex), co-morbidities and physical examination findings are recorded. Blood sample were drawn from patients within 24 hrs following admission for basic laboratory investigations including basic biochemistry, complete blood count, coagulation profile and other relevant investigations for sepsis inluding CRP and Procalcitonin, Microbiological cultures from the suspected sources of infection were also done on admission. Scoring for severity of illness like APACHE II and SOFA scoring were done on admission. The role of Procalcitonin in the diagnosis and prognosis of sepsis in elderly is assessed and compared with the other standard markers of sepsis based on mortality of the patients.

RESULTS:

Procalcitonin was an excellent indicator of sepsis. In this study procalcitonin predicts mortality($P<0.001$) and severity of sepsis($P<0.001$) and was better when compared with usual markers of sepsis like WBC count($P=0.057$), ESR($P=0.09$) and CRP($P=0.714$)

CONCLUSION:

Procalcitonin test, as a biomarker of sepsis seems to be of greater utility in detecting patients with sepsis and has not been shown to have inferior performance in elderly population with sepsis, but test results should always be interpreted in conjunction with clinical findings. Increased procalcitonin level at admission is a better predictor of organ dysfunction and mortality in elderly patients and its prognostic value in elderly patients is much better when compared to other markers of sepsis including CRP. Further randomised control study on procalcitonin and non-procalcitonin monitored patients is needed to conclude if outcome and cost benefits increase with procalcitonin use.

KEYWORDS: Sepsis, Elderly, Biomarkers, Procalcitonin, Mortality